Needham Funds

New York, NY 10022
(800) 625-7071
www.needhamfunds.com

May 2016

Dear Shareholders, Friends of Needham and Prospective Shareholders,

We are pleased to report results for the first quarter of 2016 for the Needham Growth Fund, Needham Aggressive Growth Fund, and Needham Small Cap Growth Fund. Our mission is to create wealth for long-term investors.

Needham Funds' First Quarter

In the first quarter, the Needham Growth Fund (NEEGX) returned 0.27%, the Needham Aggressive Growth Fund (NEAGX) returned 2.25%, and the Needham Small Cap Growth Fund (NESGX) returned 7.48%. The Russell 2000 Total Return Index declined 1.52%, the S&P 500 Total Return Index returned 1.35%, and the NASDAQ Composite Index declined 2.39%. According to Morningstar, the Needham Small Cap Growth Fund was the best performing of all 753 small cap growth funds in the first quarter.

1Q16: A Tale of Two Halves

2016 started with an unprecedented sell-off. The markets were dominated by fear—fear for the unity of the European Union and the Brexit (British exit), for China devaluing its currency and having too much debt, for bankruptcies in the high yield and energy sectors, and an industrial recession led by energy. There were also the Brussels terrorist attacks. At the low in mid-February, the Russell 2000 was down 16% and the S&P 500 was down 11%. West Texas Intermediate oil hit a low of $26.21, down from $37.04 at year end. Oil was hurt by a slowing world economy and fears of extra supply coming on-line from Iran. In late January, Japan announced a surprise interest rate cut, which placed rates at -0.1% for financial firms with deposits at the Bank of Japan. In late January, we learned that 4Q15 GDP growth was just 0.7%. These fears make us continue to believe that monetary policy will remain accommodative across the world.

The markets and Needham Funds rallied from February 12 through the end of March. On February 10, Janet Yellen spoke to Congress; she reiterated the Federal Reserve's cautious stance in raising interest rates and wouldn't take negative rates off the table. The big story in the first quarter was the turn in the markets two days later. This was followed a few days later by Russia, Saudi Arabia, Venezuela and Qatar announcing an oil production cutback, which at the time appeared to have teeth. Oil closed the quarter at $40 per barrel. The second half rebound was aided by the weak dollar that fell 4.5% versus the DXY index, a basket of currencies. All three Needham Funds outperformed during the sell-off and rebounded to finish the quarter in positive territory.

In April, we learned that 1Q GDP growth was just 0.5%. It appears that 2% GDP growth will be a stretch for 2016. Again, we see no hope for a growth-oriented domestic policy built on an internationally competitive corporate tax regime, lower regulatory and policy barriers to private sector hiring, lower marginal tax rates, and a lower rate of increase of government spending. At best, we believe the economy will muddle along.

Thoughts on Investing in Small Caps in This Difficult Market

As we did last quarter, we cite a few maxims from Warren Buffett and Charlie Munger, and add one of Phillip Fisher's 15 questions for investing in growth companies.

1. **Pay little attention to the macro.** Times are never easy. As bad as things may seem today, imagine what it was like investing during World War II or the Cold War. In an August 6, 1979 essay for *Forbes*, Warren Buffett wrote, "The future is never clear; you pay a very high price in the stock market for a cheery consensus. Uncertainty actually is the friend of the buyer of long-term values."

2. **Focus on the business, not on the stock.** "He [Warren Buffett] never forgot that underneath each stock and bond, no matter how arcane, there lay a tangible, ordinary business.[1] …Study prospects - and their competitors - in great detail. Look at raw data, not analysts' summaries. Trust your own eyes."[2]

3. **Does the company have products or services with sufficient market potential to make possible a sizable increase in sales for at least several years?[3]** Philip Fisher wrote "Common Stocks and Uncommon Profits" in 1957 to identify the principles behind investing in growth companies.

4. **Invest in companies or funds that you understand.** It's important to define your circle of competence. If something sounds too complicated or good to be true, it probably is. If Warren Buffett can't understand an investment opportunity, it goes into the "Too Hard" box on his desk.

5. **Invest with a margin of safety.** Once you understand the strategic and operational aspects of a business, it's important to determine what you believe to be the intrinsic value of the business. What do you think is the company's growth rate and future cash generation potential? What are the assets on the balance sheet worth? If the stock is too expensive, be patient.

6. **Once you invest, be prepared to stay the course.** Buffett says one should be prepared to withstand a 50% drop in an investment and if that happens, one should be prepared to hold for at least two years to let your investment thesis play out. "To the extent that he, or any investor, is not thinking about how and when he will get out, he will be more selective on the way in."[4]

7. **Professors Martijn Cremers and Ankur Pareek found that High Active Share and Low Turnover is an effective strategy for outperforming broad-based indices over the long-term**. In writing about Buffett's view of a concentrated portfolio, Lowenstein wrote, "But when an investor had conviction about a stock, he or she should also show courage - and buy a ton of it."[5]

   In "*The Education of a Value Investor*," Guy Spier highlighted the importance of low turnover, "Long-term compounding is an investor's best friend, so why get in its way?"[6]

   "… what makes sense in business also makes sense in stocks: An investor should ordinarily hold a small piece of an outstanding business with the same tenacity that an owner would exhibit if he owned all of that business."[7]

8. **Make investment decisions away from the noise**. Spier described the importance of one's work environment and the dangers of listening to the pervasive investing noise. As humans, we are inclined to act and respond to stimulus. It takes discipline to ignore the noise and we all have a limited amount of discipline. Rather than try the difficult task of trying to be more disciplined, how about changing the work environment and minimizing the distractions? Get rid of the televisions, Bloomberg terminals and quote screens.

Big Opportunity in Small Cap Stocks

It's easy to be concerned about the market and macroeconomic fears. However, when we think of the Needham Funds as having partial ownership in businesses with great new products and services, it's easier to be excited. Our job is to find companies we believe have misunderstood growth prospects.

Historically, small cap stocks have outperformed the S&P 500. However, small caps have trailed the S&P 500 by almost 800 basis points per year for the last two years.

---

[1] Roger Lowenstein, *Buffett, The Making of an American Capitalist,* (1995), xii.
[2] Lowenstein, *Buffett, The Making of an American Capitalist*, 325.
[3] Philip Fisher, *Common Stocks and Uncommon Profits*, (2003), 47.
[4] Lowenstein, *Buffett, The Making of an American Capitalist*, 272.
[5] Lowenstein, *Buffett, The Making of an American Capitalist*, 325.
[6] Guy Spier, *The Education of a Value Investor,* (2014), 48.
[7] Berkshire Hathaway, Annual Report, 1993.

As shown in Table 1, the Needham Funds have lower average valuations than their peers and indices, with the exception of NEAGX having a slightly higher multiple to sales than the Russell 2000. NEAGX and NEEGX have superior cash flow growth. They also have superior sales growth compared to the S&P 500. NESGX shows significantly lower valuations than its small cap peers and the indices.

Table 1

	Price/ Book*	Price/ Sales*	Price/ Cash Flow*	Sales Growth	Cash Flow Growth
NEEGX	2.19	1.14	5.12	5.41%	15.22%
NEAGX	2.22	1.47	4.87	8.10%	17.49%
NESGX	1.54	0.85	5.11	0.59%	-4.40%
S&P 500	2.52	1.76	9.83	1.59%	1.48%
Russell 2000	3.00	1.23	9.14	5.85%	12.60%
Mid Cap Growth Category	3.39	2.00	12.92	9.25%	16.88%
Small Cap Growth Category	3.05	1.75	13.33	9.34%	12.13%

**Forward-looking based on historical data as of 3/31/16. Source: Morningstar.*

We see a big opportunity in our small cap equity universe. All three Funds also have substantial small cap (under $2 billion market cap) and micro-cap (market caps under $250 million) exposure.

<u>First Quarter Contributors Across All Three Funds</u>

Our leading contributors across the Needham Funds were Newport Corporation (NEWP), which returned 45% on a takeover announcement by MKS Instruments, Inc. (MKSI); PDF Solutions, Inc. (PDFS), which returned 23%; and Super Micro Computer, Inc. (SMCI), which returned 39%.

On February 24, MKS Instruments, another long-term Needham Funds' holding, announced plans to acquire Newport. MKSI predominantly sells instruments and subsystems for control, power and analysis of manufacturing processes with a focus on the semiconductor industry. Newport sells photonics, lasers and optics products and systems to scientific research, microelectronics, security, life and health sciences and industrial markets. Newport will diversify MKS' product line and markets. MKSI sees an opportunity to improve Newport's margins through manufacturing and other efficiencies.

In January, PDF Solutions fell 27%, only to close the quarter up 23%. In January at the Needham Growth Conference, PDF Solutions discussed its new product, Design For Inspection. We believe Design For Inspection has the potential to double the size of PDF's available market.

Super Micro preannounced positive earnings and outlook in January, based on demand for next-generation storage and servers for data centers. Unfortunately, Super Micro preannounced negatively in April and as of May 11, the stock has retreated 23% from its March 31 closing price. Super Micro cited a broad economic slowdown.

<u>First Quarter Detractors Across the Needham Funds</u>

FormFactor, Inc. (FORM), down 19% at the end of the first quarter, was a leading detractor across all three Funds. In February, FormFactor announced weak guidance for its DRAM wafer probe card product. The DRAM market is suffering due to continued declines in the personal computer market. FormFactor also announced an agreement to acquire Cascade Microtech, Inc. (CSCD), a provider of engineering probes and RF probe cards. This product line is complementary to FormFactor's.

The Funds had a number of positions down 10-20% in January alone. Most of these positions rebounded by the end of the quarter. This decline created some compelling opportunities, and we added to existing positions, including Amber Road, Inc. (AMBR), KVH Industries, Inc. (KVHI), PDF Solutions, Ultra Clean Holdings (UTCC), and Vicor Corporation (VICR).

Needham Growth Fund

The Needham Growth Fund returned 0.27% in the first quarter ending March 31, 2016.

Super Micro Computer (SMCI) was the top contributor. Newport Corporation was the second-largest contributor. ViaSat, Inc. (VSAT), another top contributor, returned 20% on a competitive displacement of Gogo, Inc. (GOGO) to provide WiFi to American Airlines Group, Inc. (AA) planes.

Express Scripts Holdings Company (ESRX), down 21%, was the leading detractor in the quarter. In 2009, Express Scripts purchased the pharmacy benefit management business of what is now Anthem, Inc. (ANT) for $4.7 billion, which came with a 10-year contract. During the quarter, Anthem's attempt to unilaterally renegotiate the contract culminated with a lawsuit. Express Scripts is valued at just 9x 2016 estimated earnings, which leaves little value for the Anthem contract.

We added a position in Hutchison Technology, Inc. (HTCH) and added to positions, including Amber Road (AMBR), Bruker Corporation (BRKR), and Barracuda Networks, Inc. (CUDA). The Fund reduced its positions in Super Micro Computer, on the market strength, and also in Electro Scientific Industries, Inc. (ESIO) and Honeywell International, Inc. (HON).

Needham Growth Fund had an Active Share of 104.4% vs. the S&P 500 and trailing 12-month turnover of just 11%.

On March 31, 2016, the Fund had 55% of net assets in the top 10 positions. The Fund had a 5% short position and 1% in cash. 49% of Needham Growth Fund's net assets were invested in companies with market capitalizations of over $8 billion, 11% between $2 billion and $8 billion, and 39% under $2 billion.

Needham Aggressive Growth Fund

The Needham Aggressive Growth Fund returned 2.25% in the first quarter ending March 31, 2016. After Super Micro Computer and PDF Solutions, the Fund's third-leading contributor was top-holding Akamai Technologies (AKAM), which returned 6%. We believe Akamai will continue to benefit from growth in Internet video.

After FormFactor, the second-leading detractor was Medallion Financial Corp. (TAXI), which is a short position and rose 35% during the quarter. Medallion Financial is a Business Development Corporation with about one half of its loans to taxi medallion owners. Medallion values are under pressure as Uber provides more flexible work hours for drivers and no financial burden of paying for a medallion. During the quarter, the stock was lifted by the CEO's purchase of a nominal amount of stock and the continuation of their now over 10% annualized dividend. We believe accurate mark-to-market accounting would result in a loss, making the dividend unsustainable. We believe a number of their assets, most obviously their Chicago medallions, are worth far less than reported on the company's balance sheet.

The Fund added new positions in Hutchison Technology, Inc., Civitas Solutions, Inc. (CIVI), Silicon Graphics International Corp. (SGI), and FedEx Corporation (FDX). We also added to existing positions, including KVH Industries, Amber Road, PDF Solutions, and Vicor Corporation.

We exited Precision Castparts Corp. and Constant Contact, as they were acquired during the quarter, and also Foundation Medicine, Inc. (FMI) and Avid Technology, Inc. (AVID). We reduced positions, including Libbey, Inc. (LBY) and TheStreet, Inc. (TST). Results for the last year have been disappointing, and we do not believe either company is positioned to earn its cost of capital.

On March 31, 2016, the Fund had an Active Share of 113.4% compared to the Russell 2000 and trailing 12-month turnover of 16%. The top ten positions were 53% of net assets. Needham Aggressive Growth Fund exited the first quarter with 26% of net assets invested in companies with over an $8 billion market cap, 6% between $2 billion and 8 billion, 49% between $250 million and $2 billion, and 19% under $250 million. The Fund had an 8% short position and was again fully invested.

Needham Small Cap Growth Fund

We were pleased with the performance in the first quarter of 2016, as our defensive year-end cash position helped to mitigate some of the downward spiral in January and into February. During the quarter, the Fund returned 7.48% and outperformed the Russell 2000, which declined 1.52%. Our high-conviction investments allowed us to remain patient through the sell-off, and we added to several positions at good value. We attended the 18th Annual Needham Growth Conference in January and had the opportunity to meet with many of the managements of our core holdings. Volatility remained high throughout the quarter, but many of our holdings recovered nicely from the market lows in February.

The highlight of the quarter was that M&A returned to the small cap technology markets. Our long-time holding in Newport Corporation was acquired by MSK Instruments at a very nice premium. MKSI has also been a long-time holding of the Fund, and we are excited about the combination as it extends the company's market opportunity and balances their product portfolio. Another long-time holding, Ruckus Wireless (RKUS), announced that it will be acquired by Brocade Communications (BRCD) in a cash and stock transaction. We are happy that Ruckus executed a terminal trade as the competitive markets and cost of capital weighed on its valuation. Our holding FormFactor acquired Cascade MicroTech (CSCD), which we expect to be very accretive over time. The combination continues to diversify FormFactor's product offering, and we expect the company to utilize low-cost debt to finance the transaction, along with cash on hand. FormFactor will also be able to utilize its net operating loss, which is a very nice addition to the accretion of the transaction.

From a fundamental perspective, semiconductor capital equipment spending has stabilized after the delays in technological advancements announced last summer by Intel. We have exposure to this industry through Ultra Clean (UCTT), MKS Instruments, FormFactor, PDF Solutions, and a few other smaller positions.

The cloud build-out continues to remain strong, and we are exposed to these trends through our holdings in Super Micro Computer and Silicon Graphics (SGI). We expect a nice product cycle later in the year, as Intel ramps its next-generation semiconductors. Both of these companies have nice long-term business trends; however, their revenues can be lumpy at times. We view pullbacks in these stocks as opportunities to deploy capital at good prices.

We believe small cap stocks remain a good value investment and look forward to redeploying capital when we find the fat pitch. Earnings season has started and unsurprisingly, earnings are generally weak after such a tough start to the year; however, we do expect a stronger second half of 2016. The dollar has weakened since the start of the year and should lessen the headwinds faced in 2015. The downdraft in the energy patch has seemingly subsided for now, and although energy is not a focus area of investment for us, we are exposed through many of our technology holdings which supply the industry. Global central banks continue to remain accommodative, and we believe the Federal Reserve is cautiously monitoring any further rate rises.

Closing

We believe the U.S. is again facing sub-par economic growth, but it remains the best place in the world to be investing and working. Asia and Europe are facing difficult economic times. We believe there is opportunity in small and mid-cap stocks in this difficult market. We are particularly excited that this market may give us a chance to add to positions already in the portfolio.

To reiterate perspectives from Warren Buffett, Charlie Munger and Philip Fisher:

1. Pay little attention to the macro.
2. Focus on the business, not on the stock.
3. Does the company have products or services with sufficient market potential to make possible a sizable increase in sales for at least several years?
4. Invest in companies or funds that you understand.
5. Invest with a margin of safety.
6. Once you invest, be prepared to stay the course.
7. Professors Cremers and Pareek found that High Active Share and Low Turnover is an effective strategy to outperform the averages over the long term.
8. Make investment decisions away from the noise.

To reiterate our overall thesis: monetary policy remains accommodative. Most importantly, we see a revolution happening in technology that has created and continues to create investment opportunities.

We see opportunity in our strategy of investing in companies that we know well and that we believe are positioned with secular growth drivers. We believe 2016 will bring a modest rebound for equities. As it already has this year, we believe the markets will experience more volatility and that our ability to short could dampen the possible volatility.

We welcome our new investors and thank all of our investors for their continued support. If you have any questions, thoughts or concerns, please contact us at (800) 625-7071 or send us an email at cretzler@needhamco.com or jbarr@needhamco.com. For information about the funds, please visit our website at www.needhamfunds.com.

Sincerely,

Chris Retzler	John O. Barr
Portfolio Manager	Portfolio Manager